

# **ENHANCING AUDIO SIGNALS BY NONLINEAR SPECTRAL OPERATIONS**

## **ABSTRACT OF THE DISCLOSURE**

A system and method are disclosed for enhancing audio signals by nonlinear  
5 spectral operations. Successive portions of the audio signal are processed using a  
subband filter bank. A nonlinear modification is applied to the output of the subband  
filter bank for each successive portion of the audio signal to generate a modified subband  
filter bank output for each successive portion. The modified subband filter bank output  
for each successive portion is processed using an appropriate synthesis subband filter  
10 bank to construct a modified time-domain audio signal. High modulation frequency  
portions of the audio signal may be emphasized or de-emphasized, as desired. The  
modification may be applied within one or more frequency bands.